

REMARKS

Claims 1- 42 remain in the referenced application. Claims 3,6,7,9-35, 38, 41, and 42 have been withdrawn from consideration. Claims 1, 2, 4, 5, 8, 36, 37, 39, and 40 have been rejected by the Examiner.

Claim 1 stands rejected under 35 U.S.C. §102(e) as being anticipated by McGowan (U.S. Patent No. 6,562,246 - hereinafter referred to as “McGowan”). The Examiner asserts that McGowan discloses a method of cleansing a filter including providing a source of purified water (e.g., via filter 14 stored in accumulator 16), and exposing the filter to purified water (e.g., via backwashing as shown in Fig. 2). Applicant contends that McGowan does not disclose the method steps of Applicant’s invention including “providing a source of purified water and exposing the filter to the purified water.” McGowan discloses a “PRESSURIZED BACKFLUSH SYSTEM” that filters a fluid in a flow path, diverts a small portion of the filtered fluid from the flow path to a pumping device, pumps the diverted fluid into a pressurized accumulator, and then utilizes the fluid stored in the accumulator as a backflush media in a high pressure backward flow through the filter. Applicant asserts that filtering of a fluid does not produce “purified water” as defined by Applicant’s disclosure. One of ordinary skill in the art will clearly recognize that filtering a fluid removes particles suspended in the fluid, and purification of a fluid removes not only suspended particles, but also solids dissolved in the fluid.

McGowan accordingly does not disclose utilizing purified water as a cleansing agent. McGowan clearly recites use of a “filtered fluid” as a backflushing media. Applicant contends that Applicant’s invention discloses utilizing “purified water” as a cleansing agent, and as a backflushing media. Applicant contends that “filtered fluid” and “purified water” are not interchangeable terms. Applicant’s invention is drawn to the specific use of “purified water”

because it has an increased solubility, and therefore, is more effective in the removal of sediment from a filter. Applicant respectfully asserts that “purified water” in Applicant’s invention has been disclosed and defined as “water having a lower total dissolved solids reading than the water being filtered, preferably with a dissolved solids reading fifty percent lower than that of the water being filtered, and more preferably with a total dissolved solids reading ninety five percent lower than that of the water being filtered.” Applicant’s invention further defines purified water as being produced by, “any suitable purification process, such as reverse osmosis, steam distillation or deionization.” As such, McGowan fails to distinctly recite the steps of providing a source of purified water and exposing the filter to the purified water because McGowan discloses only water filtration which is a process that does not remove dissolved solids to produce water with increased solubility. Applicant therefore respectfully submits claim 1 is patentable over McGowan.

Claim 2 stands rejected under 35 U.S.C. §102(e) as being anticipated by McGowan. The Examiner asserts that McGowan discloses a filter cartridge 14 that is cleansed by purified water. Applicant respectfully asserts that claim 2 of Applicant’s invention recites cleansing of a filter cartridge with purified water. While McGowan recites backflushing a filter cartridge, he does not recite cleansing the filter cartridge with purified water. As previously argued, Applicant contends that “filtered fluid” and “purified water” are not interchangeable terms. Applicant’s invention is drawn to the specific use of purified water because it has an increased solubility, and therefore, is more effective in the removal of sediment from a filter. Accordingly, Applicant respectfully submits claim 2 is patentable over McGowan.

Claim 8 stands rejected under 35 U.S.C. §102(e) as being anticipated by McGowan. The Examiner asserts that McGowan discloses backwashing the filter with purified water (see Fig. 2).

Applicant respectfully reasserts that McGowan does not recite the use of purified water as a backflush media. As previously argued, a “filtered fluid” and “purified water” are not identical in form. Applicant’s invention is drawn to the specific use of purified water because it has an increased solubility. McGowan discloses the use of a “filtered fluid” as a backflush media. Applicant therefore asserts that claim 8 is patentable with claim 1.

Claim 36 stands rejected under 35 U.S.C. §102(e) as being anticipated by McGowan. The Examiner asserts that McGowan discloses the method steps of “a) switching an inlet valve 22, a drain valve 46, and a flush valve 36 in a filtered flow path from a primary flow path used for dispensing operations to a secondary flow path, therein allowing purified water into the filtered flow path; b) flowing the purified water in the secondary flow path, wherein the secondary flow path allows the purified water to flow backwards through the filter for a predetermined interval to remove or dissolve filtered media or unclog a filter in the primary flow path; and c) switching the inlet valve 22, the drain valve 46, and the flush valve 36 from the secondary flow path to the primary flow path to resume dispensing operations (See Fig. 1).” Applicant has previously established that McGowan does not recite the use of “purified water” as a backflush media. McGowan discloses the use of a fluid filtered from a flow path as the backflush media. Applicant contends that Applicant’s invention is drawn to the specific use of purified water because it has an increased solubility, and therefore, is more effective in the removal of sediment from a filter. As McGowan does not recite the use of “purified water” in McGowan’s invention, McGowan clearly cannot anticipate claims that recite the use of “purified water.” Applicant asserts that claim 36 is therefore patentable over McGowan.

Claim 37 has been rejected under 35 U.S.C. 102(e) as being anticipated by McGowan. Applicant contends that claim 37 is patentable, as it depends from a claim reciting the use of

“purified water” to flow backwards through the filter. McGowan does not disclose the use of “purified water” in his backflush device, and therefore cannot anticipate Applicant’s claims 36 and 37.

Claims 4, 5, 39, and 40 have been rejected under 35 U.S.C. 103(a) as being unpatentable over McGowan in view of Hisada, et al. The Examiner asserts that McGowan fails to specify the flush source as containing water having a lower total dissolved solids reading less than the water being filtered, including at least 50% less. Applicant contends that McGowan in view of Hisada does not provide purified water for use as a backflush media. While Hisada does disclose a reverse osmosis cartridge that is capable of being back flushed, it should be clear that Hisada’s backflush is a low pressure backflush. It should be clear to one of ordinary skill in the art that reverse osmosis membranes do not tolerate imbalanced pressure gradients or high pressures in a reverse flow. The application of a high pressure delta backwards across the reverse osmosis membrane will cause the dislodging of the permeate spacers 6, deformation of the separation membranes 7, and ultimately, rupturing of the membranes 7, thereby rendering the reverse osmosis membrane cartridge inoperative and unusable for its intended purpose. McGowan discloses “a pressure of approximately three hundred to six hundred pounds per square inch” in his accumulator, and therefore transmits substantially three hundred to six hundred pounds per square inch to the filter cartridge being backflushed, or in the case of McGowan in view of Hisada, backwards through the reverse osmosis membrane cartridge. In the forward direction, reverse osmosis cartridges typically run on nominal water line pressures in the range of thirty to sixty pounds per square inch. Clearly, three hundred to six hundred pounds per square inch is above the normal flow pressure range for reverse osmosis filters. Pressure gradients must be controlled during the backflushing of a reverse osmosis membrane as evidenced by the teaching

of Hisada, et al., (Col 4, Lines 61 – 65), “without application of such pressure as may cause deformation.” Deformation of the membranes in a reverse osmosis cartridge leads to rupturing of the membranes and contamination of the permeate supply. At the point of a high pressure burst from McGowan’s accumulator 16, Hisada’s reverse osmosis cartridge will most certainly rupture, thereby rendering the reverse osmosis cartridge unusable in its intended purpose. As such, McGowan in view of Hisada fails to provide a flush source containing water having a total dissolved solids reading less than the water being filtered, including at least 50% less, and claims 4, 5, 39, and 40 are patentable over that combination.

The prior art made of record has been reviewed by Applicant and is deemed not to anticipate nor render obvious the claimed invention.

In view of the foregoing, Applicant respectfully requests reconsideration of the rejected claims, and solicits early allowance of the subject application.

Respectfully submitted,

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